

Sites in Yamanashi Prefecture and Middle Jōmon Agriculture

Received 9 October 1966

AKIRA KAMIKAWANA*

INTRODUCTION

I HAD the opportunity to investigate the sites of Kitahara and Yanagida in the mountainous area east of the Kōfu Plain in Yamanashi Prefecture, an area regarded as one of the dynamic centers of culture in the Katsusaka stage of the Middle Jōmon period. Sites like these give one reason to feel that the culture of the Katsusaka stage exhibits features of striking change; the sites' rich content is impressive. Radically new features have been of special interest, and excavation of the sites and further analysis of the remains have been carried out to clarify some of the problems the new features have presented.

During the Middle Jōmon period, there were two main culture zones: the Katsusaka and the Otamadai (frequently written as Atamadai in English publications); the Katsusaka zone was located in the inland mountains and the Otamadai, near the east coast. The Katsusaka culture had its center in Nagano and Yamanashi prefectures, from where it extended east as far as the southwest Kantō and west to the Hokuriku. The Kitahara and Yanagida sites are situated at the juncture of the Katsusaka and the Otamadai zones and belong essentially to the Katsusaka stage.

Representative sites of the Katsusaka period are Idojiri (Fujimori 1965), Hiraide (Ōba 1955), and Togariishi and Yosukeone (Miyasaka and Yawata 1957) in Nagano Prefecture; Sakai (Shimura 1965), Kitahara, and Yanagida in Yamanashi Prefecture (Kamikawana 1966); and Hino-fukiage in Tokyo. All are located either on a low plateau or a riverside terrace. From the character of these sites, it is clear that social conditions were fairly stable at the time and food acquisition was by no means a constant problem. The ceramic industry produced large vessels with huge handles and elaborate decoration; the vessels' shapes were determined by their functions. What were the reasons behind the relative ease of getting food? Possibly, the people improved their organization for group effort. There may have been close cooperation in hunting and fishing, but as an explanation for the new degree of stability, such a suggestion seems inadequate. The author assumes that the Katsusaka people came to employ a form of agriculture that ensured their economic stability. The excavations revealed a good many stone

* Instructor, Nihon University Third High School, Tokyo.

tools which are not sturdy enough to have served adequately as axes; in other words, the people did lighter work than their ancestors. Sites and finds are examined in this article in a search to explain the remarkable developments of the Katsusaka culture and the possibilities of agriculture.

TOPOGRAPHY OF THE SITES

The Kōfu Plain, an alluvial lowland or valley plain, delta formed, is located in the center of Yamanashi Prefecture and is enclosed by mountains on four sides: the Kanto mountains on the north and east, the South Japan Alps on the west, and the volcanic range of Fuji on the south. The plain drops steeply from the mountains while assuming a triangular shape. The entire plain was once a huge lake; eventually it was obliterated as the Kamanashi, the Fuefuki, the Ara, and other rivers drained down silt and formed deltas of differing sizes. The usual stratigraphy of the region consists of a surface layer of humus, followed by a sand layer, below which is bedrock of andesite and granite, here called the Misaka Layer.

Very few Jōmon sites are found on the plain, but many are located on the surrounding plateau along the rivers, and on the whole, it is possible to say that the higher the site, the older its age.

The sites in question are situated at the east end of the plateau. The Monju and Omo rivers, running down from Mount Daibosatsu, join near the sites and produce a sloping delta of unconsolidated material between them. The sites lie on the inundated fields higher than the uppermost point of the delta. Five main sites have been located in the area: Jūrobara (A), Kitahara (B), Tonobayashi (C), Yanagida (D), and Otsukida (E); all are in the jurisdictional area of Enzan City (Fig. 1).

DESCRIPTION OF THE SITES

Jūrobara

The site was noticed when peach trees were being replanted. It was dug in 1962 by a local person and was found to have a square pit dwelling with rounded corners. It contained about thirty pottery vessels, the large number being quite unusual for a normal pit dwelling. Our excavation was begun by digging six trenches (A-F) around the pit in a search for more dwellings, but nothing further was revealed. We cut into the sterile layer of brownish-yellow soil that contained stones ranging from fist-size to human-head size, at a depth of about 40 cm. This soil layer seems to have been formed by the flooding of the Omo River. Considering the size of the area exposed, the total count of relics found is small; there were some Katsusaka and Kasori E (often referred to as Ubayama in English publications) sherds, the head of a figurine, and some stone implements. Most of the tools are of shale.

Kitahara

The site was excavated simultaneously with Jūrobara, but because of limited time, the investigation could not be completed. A second excavation was carried out from 26 March to 6 April 1963. The sherds are all of the Katsusaka type. A deep layer of black soil descends below the humus to a depth of between 1.2 and 1.5 m, and another layer of blackish soil lies below that (see Fig. 2).

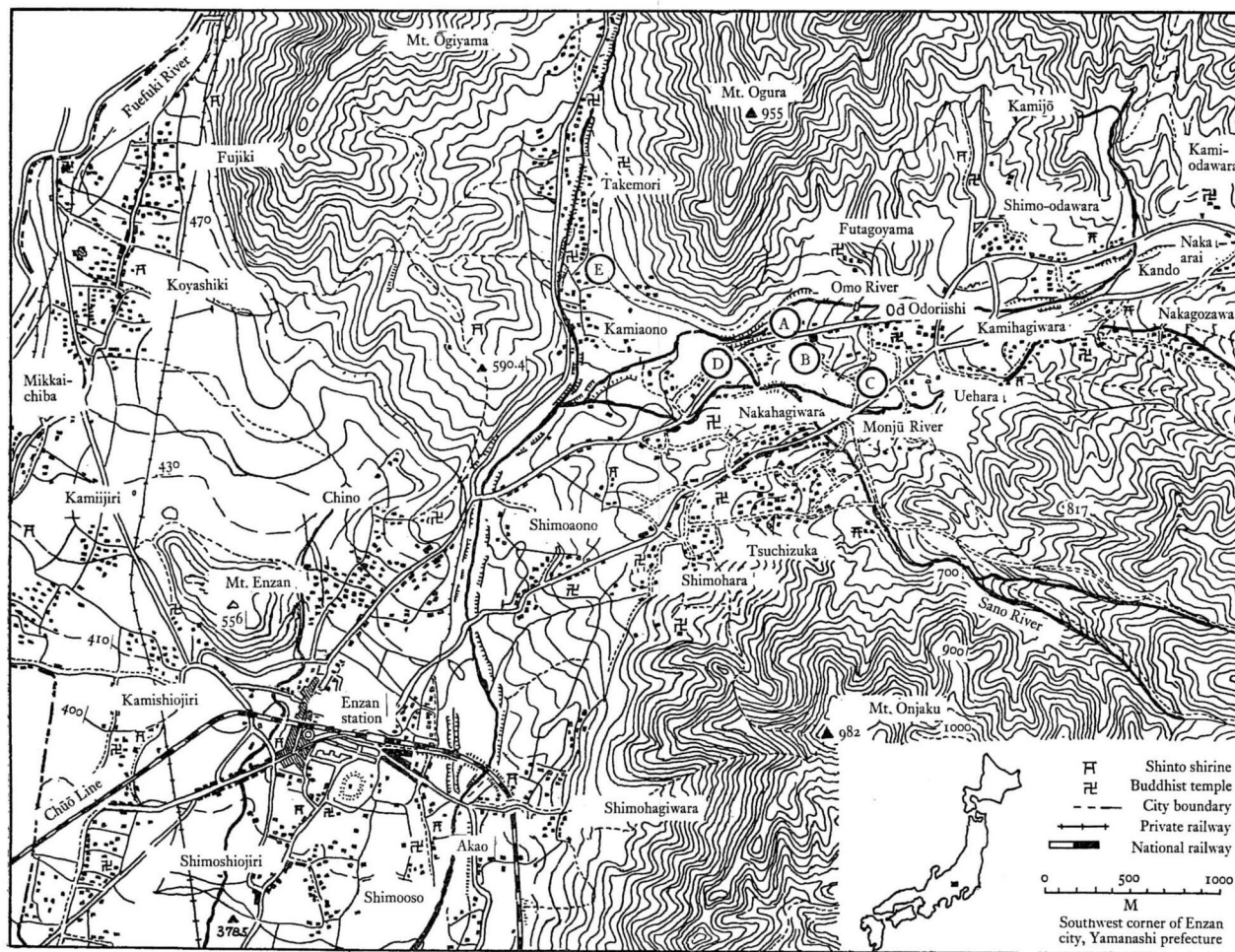


Fig. 1 Map of Middle Jōmon sites in Enzan City, Yamanashi Prefecture: A, Jūrobara; B, Kitahara; C, Tonobayashi; D, Yanagida; E, Otsukida.

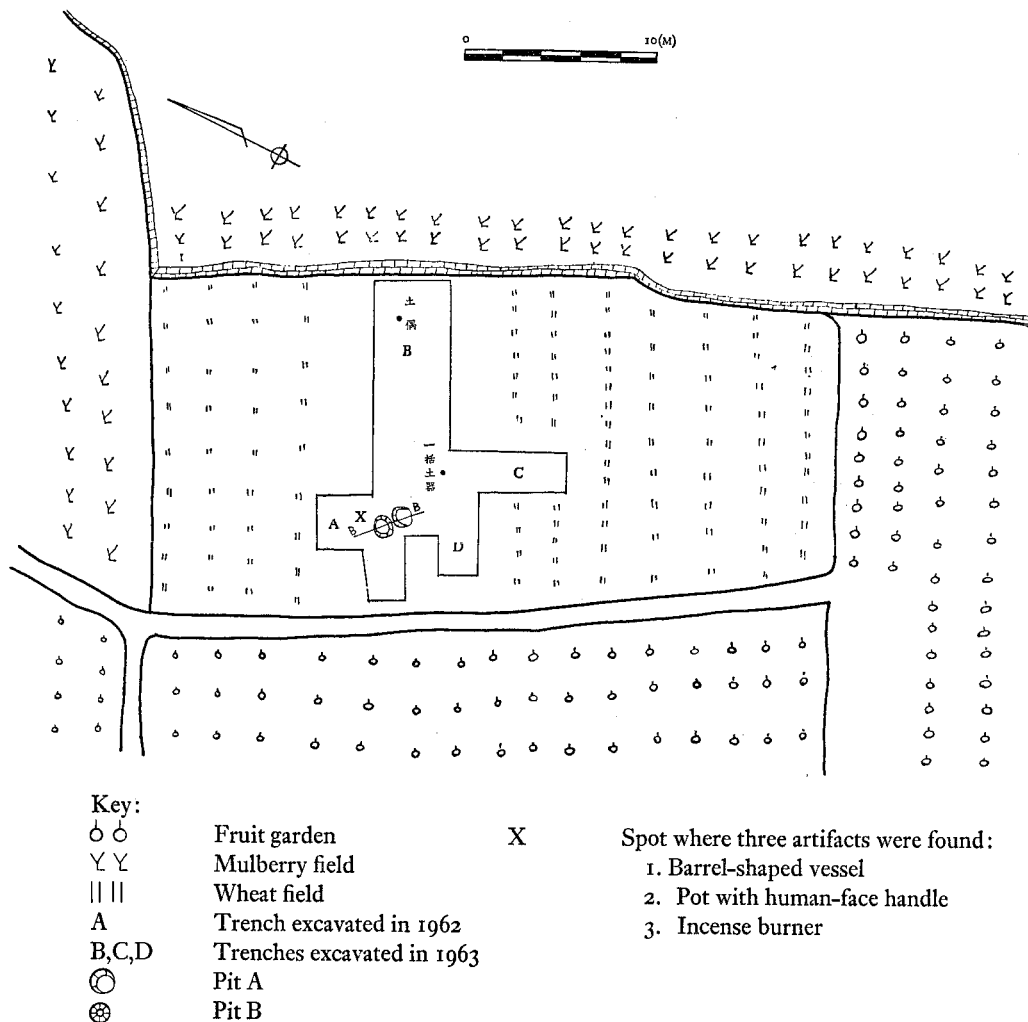


Fig. 2 Diagram of Kitahara site.

The relics were in fairly good condition (Plates I and II). Two small pits (1 m in diameter) that had been cut into the black soil to a depth of 1.3 m contained several pottery vessels. Under one of the vessels lay 6 stone implements (Plate IIc) and to the north of the pit, in a brownish soil layer, about 1 m below the surface, 3 vessels were found: a barrel-shaped pot with perforations near the rim (Fig. 3b), a huge pot with a "human-face" handle (Plate Ib and Fig. 4c) rested on its side, and below these an incense-burner shaped vessel was carefully deposited (Plates Ib and IIa, b). The barrel-shaped vessel had been placed as though it had been crushed by the weight of the earth, but it still retained its original shape. Unfortunately, this was not the case with the "human-face" handled vessel, whose shape was no longer distinguishable. This "incense-burner" (Plate IIb and Fig. 4b) has a total height of 20.3 cm, and from base to rim is 9.6 cm; it is triangular in shape at the rim—each side measures 15 cm—and it is circular at the base with a diameter of 7 cm. The bridge-handle is composed of three strips of clay and carries three animal-like figures. The figures resemble wild boar when

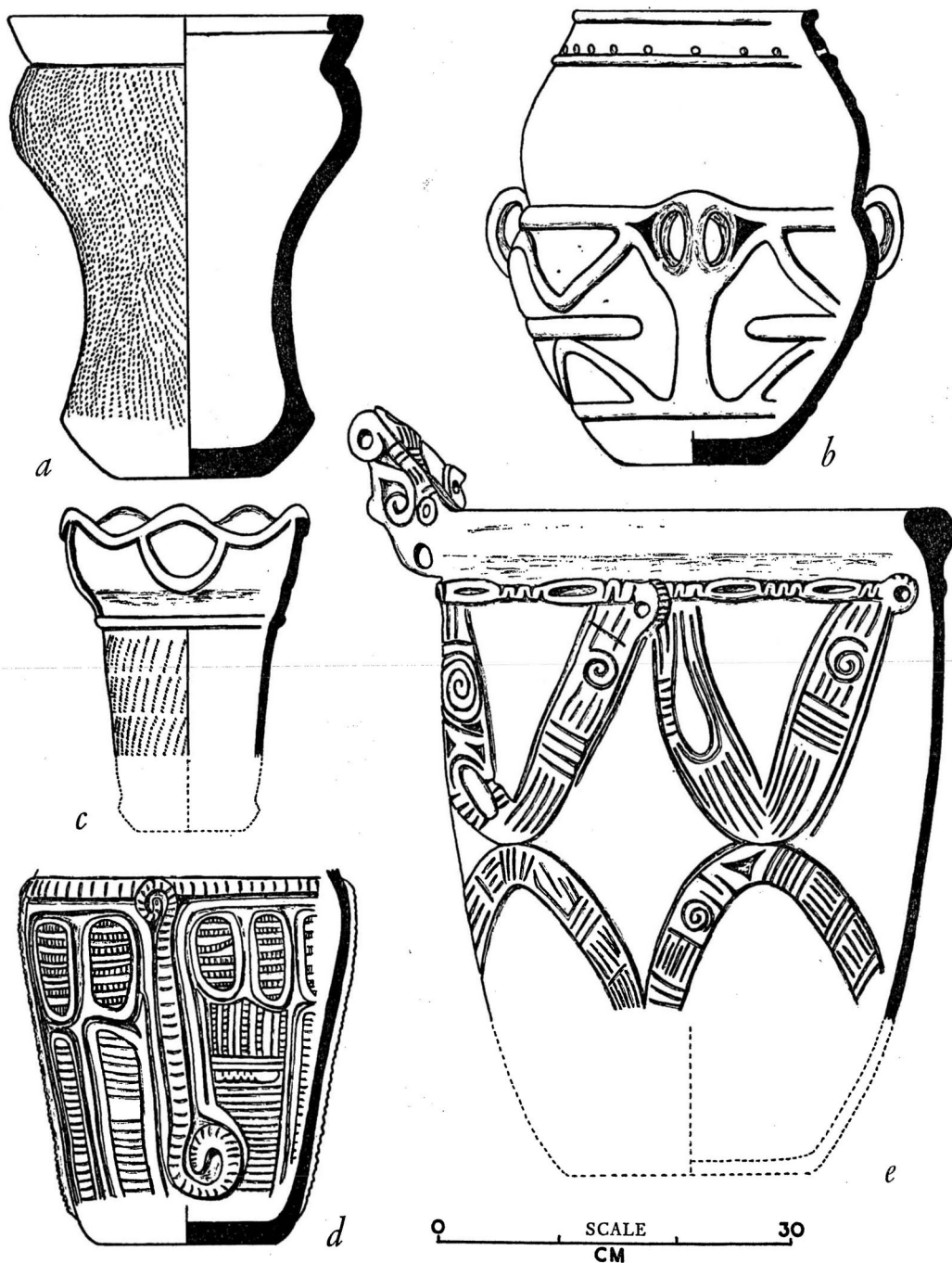


Fig. 3 Pottery vessels from Kitahara.

viewed from the front, but fish when seen from the side. There are projections on the two opposite sides of the rim. A row of indentations on each strip reminds one of the stylized body of a snake. On the inner surface of the vessel are multidirectional scratches that look as though they were made by a stick or a utensil used to stir some kind of liquid, which may have been a fermented drink. We collected carbonized material from the inner surface, but an analysis has not yet been made of it.

We extended the area during the second excavation, but could find no evidence of dwelling

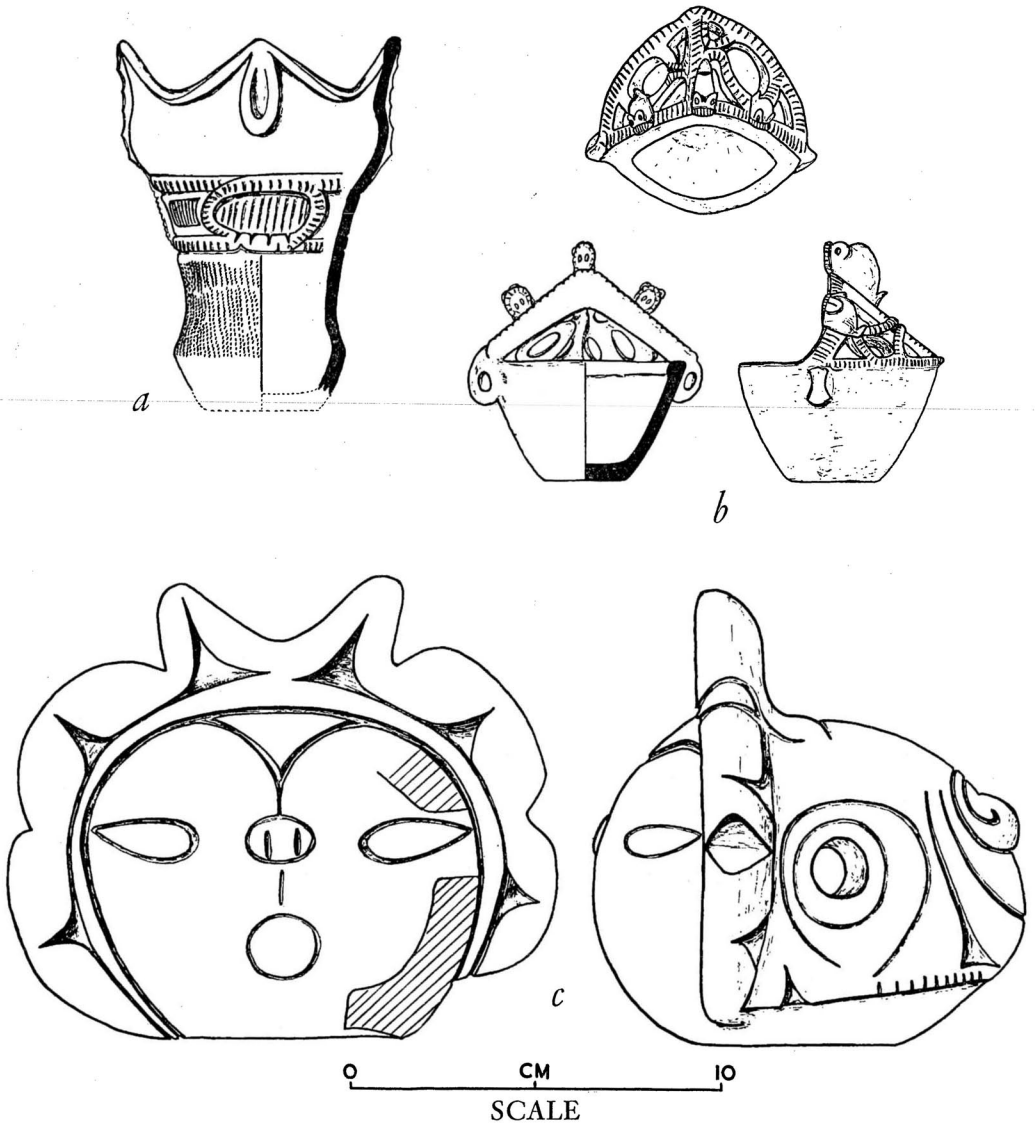


Fig. 4 a, Pottery vessel and b, "incense-burner" from Kitahara; c, "human-face" handle from Kitahara.

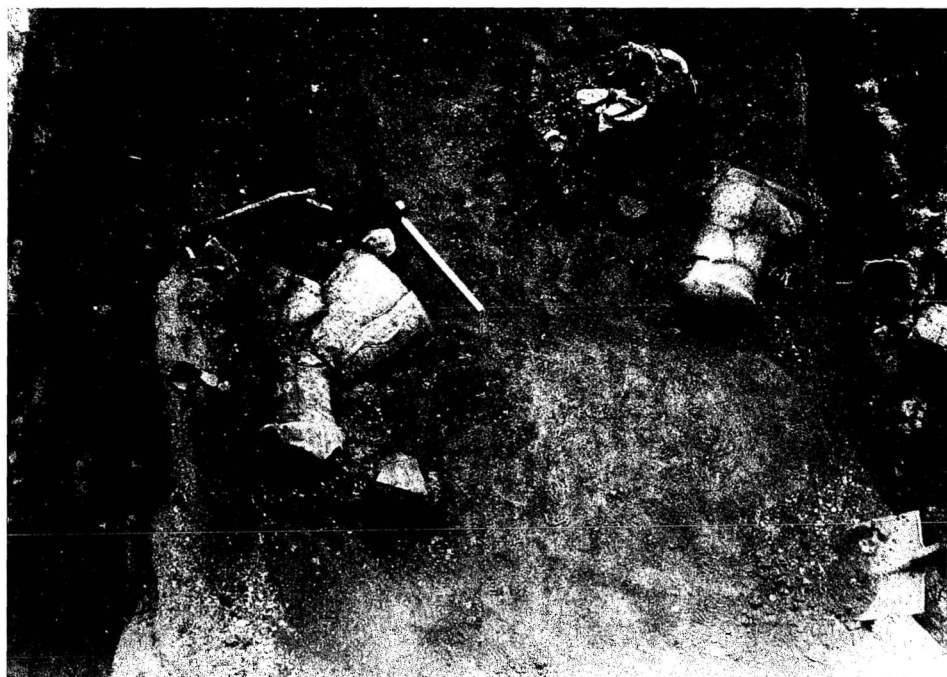


Plate I

- a* Pottery vessels exposed in trench, Kitahara.
- b* Barrel-shaped vessel covering pot with "human-face" handle and "incense-burner," Kitahara.



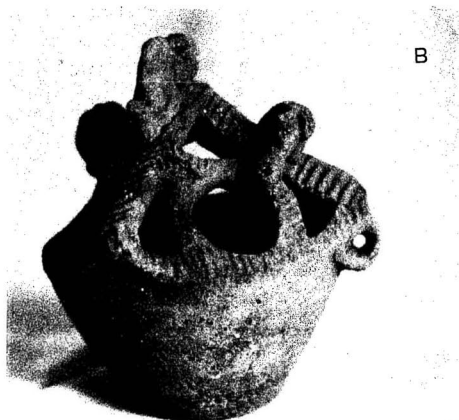


Plate II *a* "Incense-burner" exposed in ground, Kitahara.
b "Incense-burner", Kitahara; Ht, 20.3 cm.
c Six stone stools as exposed after removal of vessel, Kitahara.



Plate III *a* Pottery vessels in Trench B, Yanagida.
b Pottery vessels in Trench B, Yanagida.



Plate IV

- a* Large pottery vessel found at Tonobayashi; scale shown by man behind it.
- b* Stone pile, Hino-fukiage site, Tokyo.

pits. Therefore, judging from this unusual juxtaposition of the vessels, it can be assumed that the spot was used ritually for the neighboring communities.

Yanagida

The site had been used for growing burdocks and is now a mulberry orchard. A small road runs across the northwest side of the site, and the area available for excavation was quite small, totalling about 18 sq. m. We were requested to dig because many sherds had been found at the time burdocks were being cultivated, and therefore we excavated a trench on the east part of the site, designated Trench A (6×2 m). The soil had been badly disturbed to a depth of 50 cm because of burdocks planting; 10 cm deeper we encountered a yellowish-brown sand layer that is peculiar to the local delta formation. This is the layer that contains relics. A large vessel whose diameter measures 50 cm was found on the west side of the trench; another vessel, this one lying on its side, was uncovered about 2 m north of the other. Trench B (6×2 m) was opened to the west of Trench A, and two groups of vessels were uncovered at either end of this trench (Plate IIIa,b and Fig. 5). In the southern group there were four large, deep vessels, one lying obliquely, the others, flat. One of the vessels contained a stone of granite the size of a human head. All of the vessels could be restored. They range between 60 to 70 cm in height and 40 to 50 cm in diameter.

Trench C (6×2 m) was dug between trenches A and B. Serious disturbance to a depth of a meter could be attributed to the fact that the spot lies in the center of the farmer's garden. On the north side of the trench, a group of vessels lay at a depth of 1.3 m. To the west of them was a very large pot resting in a fallen state, its mouth towards the north, accompanied by a stone the size of a human head. A cache of more than 20 vessels was recovered which, in such a small area, is nothing short of remarkable. A full day was required to remove some of the largest vessels. The upper part of each vessel had been sheared off, but the farmer's collection of sherds provided most of the pieces needed to restore them (Fig. 6, Fig. 7).

Certain features emphasize the unusual nature of the site: it was devoid of pits for houses, the vessels are phenomenally large; the vessels tended to be paired, or two were connected at the rims; some contained stones the size of a human head, or such stones lay nearby. The peculiarities of the site led us to regard it as a cemetery of the Middle Jōmon period (see Addendum).

Tonobayashi

The site was found by a local farmer in 1962. Having been told that an extraordinarily large pot had been dug up, I and my party decided to investigate the site. The site is located at the highest point on the bluff by the Monju River. We opened a trench (6×2 m) by the spot where the pot was unearthed, but very few artifacts were found, leading us to believe that the huge pot must have been buried by itself. We were told by the farmer later that there was one more pot with it, but it had been badly destroyed. However, the whole pot (Plate IVa) is complete and is said to have contained a stone the size of a human head in its bottom. The evidence points to its use as a burial jar; as mentioned above, a vessel given similar use was uncovered at the Yanagida site. At Tonobayashi, in the process of cultivation, the farmers found two fireplaces in addition to the vessels already discussed. The Tonobayashi pottery is largely of the Kasori E type.

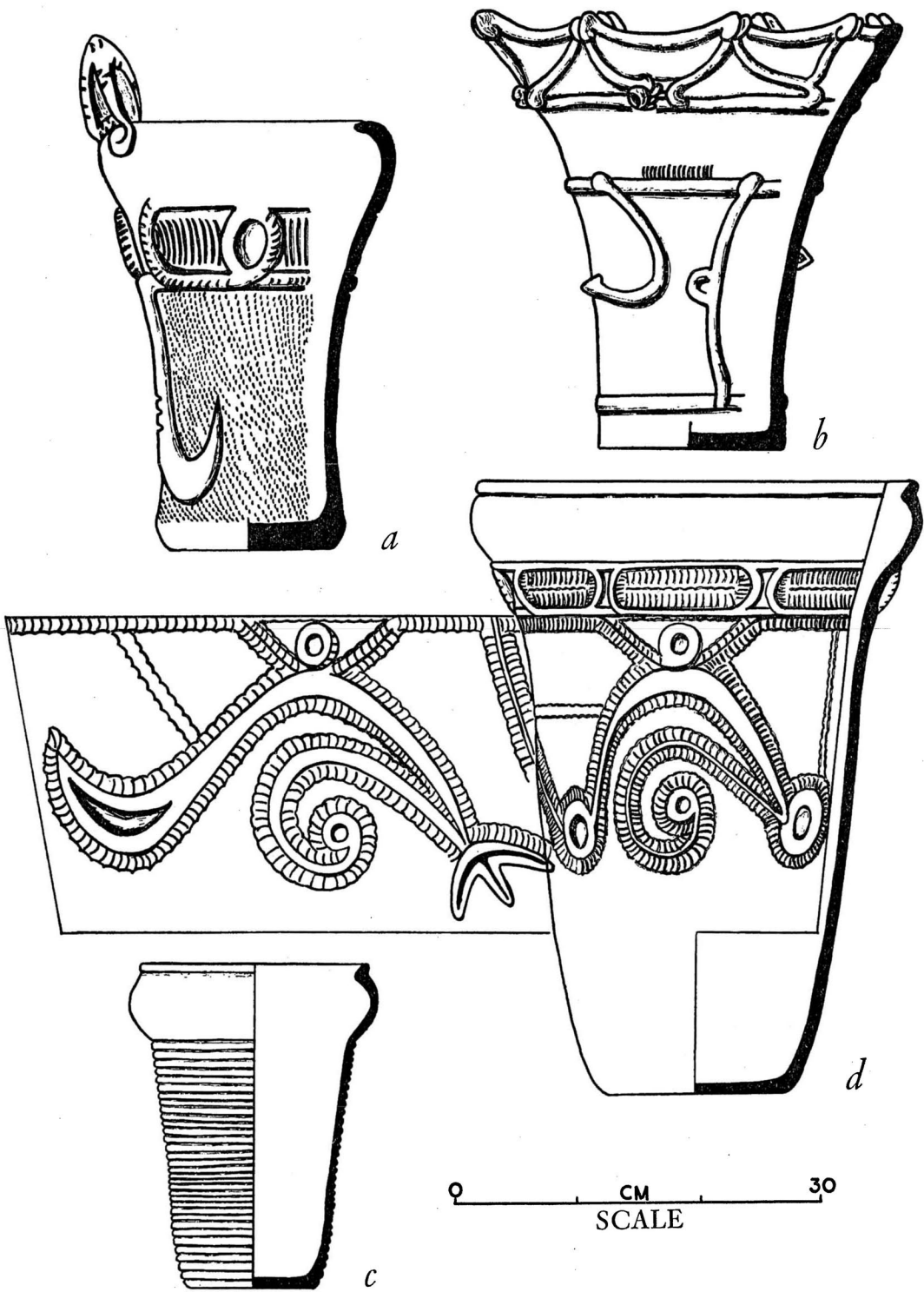


Fig. 5 Pottery vessels from Yanagida.



Fig. 6 Pottery vessels from Yanagida.

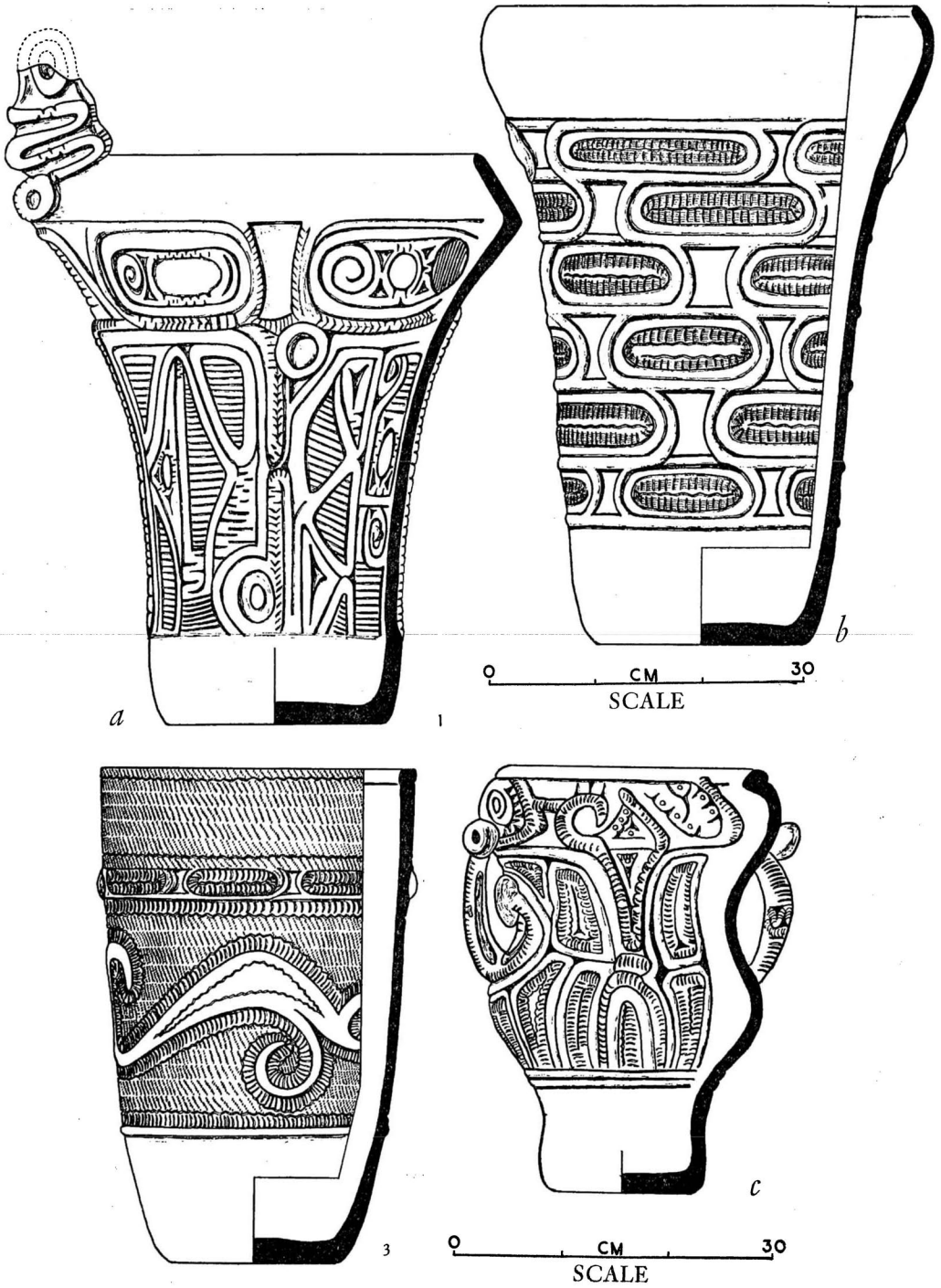


Fig. 7 *a,b*, Pottery vessels from Yanagida; *c,d*, vessels from Yanagida.

Otsukida

The site is located on the plateau to the north of the Omo River and was found while a road was under construction. It yielded a vessel with a hollow "human-face" handle and a bowl-shaped pot, both of the Katsusaka type. Although the site was not dug, it is included here because it appears to be unquestionably related to the others.

Each site has been briefly described; further excavation will probably reveal more material and present new ideas with which to work. It seems to me that the entire area eventually may be recognized as a large village, but until now, only one pit house has been uncovered. All the pottery can be classified either as Katsusaka or Kasori E, implying continuous use of the area. The relative sequence of the sites may be established on the basis of the pottery typology outlined in the chart below. The oldest site of the group is Yanagida since the earliest pottery was found there; probably contemporary with Yanagida is Otsukida, followed by Kitahara with Katsusaka II; slightly more recent is Jūrobara with Katsusaka II, Kasori E II, and possibly other subtypes; the most recent site is Tonobayashi with Kasori E I and II pottery types.

SITE	POTTERY TYPE					
	Katsusaka			Kasori E		
	I	II	III	I	II	III
Yanagida	(x)	x	x			
Otsukida		x				
Kitahara		x				
Jūrobara		x	?	?	x	
Tonobayashi				x	x	

NEW CULTURAL TRAITS

The transition from the Early to the Middle Jōmon period illustrates certain logical developments in regard to pottery types. Middle Jōmon vessels have a characteristic morning-glory shape. The prototype of this shape had already appeared in the Early Jōmon's Morioso stage (or subtype Yonmaibata), but similarities between the Early and Middle periods stop with pottery, and with the basic shapes at that. Any detailed analysis of the Middle Jōmon culture exposes the dangers of attempting to explain the differences between the two periods as normal cultural evolution. Some important new traits are examined briefly below.

Village Sites in the Katsusaka Stage

Only one pit dwelling and two fireplaces were uncovered at Kitahara and Yanagida. This is in itself unusual, since in other known examples, if one may compare them with communities of the previous period, villages were organized on a remarkable scale. The distance from Tonobayashi to Otsukida is about 1500 m, while the width of the site measures between 500 and 1000 m. Sherds are scattered over the entire area and beyond for about 2000 m, indicating that it is therefore a site of far greater dimensions than any other of the same period. Comparative statistics of other sites graphically point up this fact:

SITE	NUMBER OF PIT DWELLINGS	SIZE IN METERS
Idojiri	79	150 × 100
Togariishi	33 + 38 (firepits, perhaps of houses)	200 × 100
Yosukeone	28	200 × 50
Hiraide	17 + 49 (Haji)	500 × 200
Sakai	17	350 × 200
Hino-fukiage	11	500 × 500

Snake Decoration

Katsusaka pottery often bears decoration that ranges from quite abstract to highly realistic representations of snakes (Plate V), although the extreme form of the latter are rather infrequent. Examples of all varieties are to be seen in Nagano, Yamanashi, and the southwest Kantō. It is not easy to explain why the snake was used this way in the decoration, but it customarily appears in ancient art forms where agriculture began. The coastal Otamadai culture of the Middle Jōmon period found no place whatsoever for the snake motif, a lack that could in all likelihood be explained because of differing methods of securing food (see Addendum).

Jar Burials

Large vessels were often used for burial purposes. No human bones were discovered in or by any pots found in Katsusaka stage villages, but in some other sites, particularly in shell mounds, bones have been recovered from pots. At Samukaze shell mound, Matsudo, Kashiwa City, Chiba Prefecture, a large jar 61.5 cm in height contained the bones of an adult; at Kugurizaka, Asamushi, Aomori City, 12 deep vessels were found in a row and each contained the bones of an adult; at Tsunagi, Morioka City, Iwate Prefecture, a group of vessels was discovered with holes in their bases; at Fujinuta, Sakaigawa village, Higashi-yatsushiro County, Yamanashi Prefecture; and Kamikurokoma, Misaka-machi, Higashi-yatsushiro County, Yamanashi, about 10 vessels were lined up in a row. None of the Kamikurokoma vessels contained bones, but conditions allowed the site to be regarded as a cemetery. All are Middle Jōmon sites, except Kamikurokoma, which is early Late Jōmon. Although no bones were found in the jars at the sites—bones are rarely preserved in Japan's damp soil—a group of large vessels may be considered to be a kind of cemetery. The Jōmon inhabitants may have designated areas properly removed from the village by a certain distance as burial grounds and buried their dead respectfully in large pots. This kind of practice inevitably leads one to believe that the people stayed in the area long enough to organize a stable, relatively sedentary society.

Stone Piles

Stone piles are popular in Middle Jōmon sites, although none has been found at Kitahara. I excavated several near the pit dwellings at Hino-fukiage that consisted of fist-size stones arranged in a circular manner (Plate IVb). The stones were baked red by fire. Therefore, the stone piles may have been used in some way for cooking, but the function was still somewhat different from the function of a fire pit. Possibly, starch was spread on the leaves of oak or other trees and was baked between two *ishizara* ("flat grinding stones"). Stone piles have also been found in the International Christian University (I.C.U.) site, Tokyo, and they were

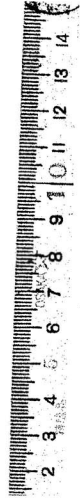
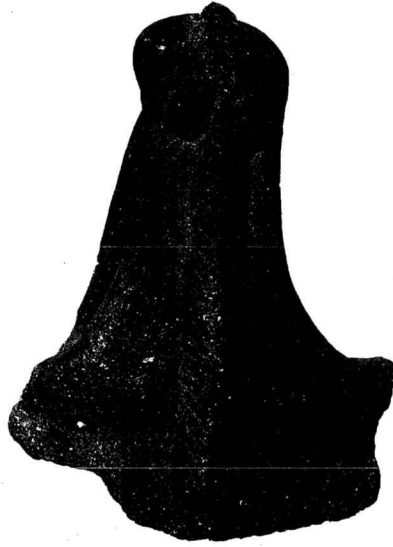


Plate V Snake motif on Katsusaka pottery.

probably used in the preparation of food such as starch, which was impossible to cook by direct fire.

Chipped Stone Tools

The chipped stone implements of the Middle Jōmon period were often made of soft stone. The illustrations show rectanguloid shale tools excavated from Kitahara (Fig. 8, *b-g*). The stone is fragile and has a hardness of about 3 on the Mohs scale, and even after having been worked, it was not suitable for heavy duty. This leads me to believe that such tools were used for digging roots and that the indisputable quantity of them in Middle Jōmon sites is convincing evidence of mass cultivation of edible plants. However, three of the stone implements (*hōchō*) from this site are well shaped for cutting and preparing foods (Fig. 9*a, c*).

Incense-Burner and Barrel-Shaped Vessels

The group of vessels at Kitahara, which included the object shaped like an incense-burner, were uncovered in a very peculiar relationship to each other that suggests that they were probably used in a ritual manner. The vessel with the "human-face" handle has a carbonized material adhering to its inner surface; on this surface multidirectional striations can be seen that more than likely were made when a stick was used to stir a potful of liquid. I suggest that the "human-face" vessel was employed for fermenting fruit wine and that the barrel vessel was used for its storage. Then, the wine was put ceremonially in the incense-burner, and it was placed in a sacred location. For some unclear reason, the pots were left buried as they were.

Other incense-burners of the Middle Jōmon period have been found at the following sites:

Sori, Fujimi-chō, Suwa County, Nagano Prefecture

Idojiri, Fujimi-chō, Suwa County, Nagano Prefecture

Fudasawa, Fujimi-chō, Suwa County, Nagano Prefecture

Ōmiyama, Kawakami Village, Minamisaku County, Nagano Prefecture

Narahara, Hachioji City, Tokyo

Mukobara, Hachioji City, Tokyo

Hachiman Jinja, Igusa, Nerima Ward, Tokyo

Barrel-shaped vessels, on the other hand, have a much wider distribution. The function of such vessels, to judge from the small holes around the rim, was to hold fermented liquid. The vessel from Kitahara shows no evidence of having been used over a fire, so it could hardly have been a steam pot. A similar assemblage is reported from Idojiri (Fujimori 1965: 27), and it is also considered to be a ritual site. One vessel in the Idojiri set is barrel-shaped.

Katsusaka Agriculture

The Katsusaka culture is materially rich by Jōmon standards, a stage that may have been reached as a result of favorable climatic and (therefore) economic conditions. Such a level of living may have been the result of the population's plant cultivation, but there are no clear clues as to which plants may have been cultivated, since the soil of the central mountains has not preserved the evidence. But I presume that the inhabitants grew some sort of *taro*, or at least there was more likelihood of *taro* than of a millet. Taro is grown today in the region and if it is not indigenous, it certainly is an introduction that preceded millet and rice. The long rectanguloid tools would be good for digging root plants, and the *hōchō*-shaped tools have

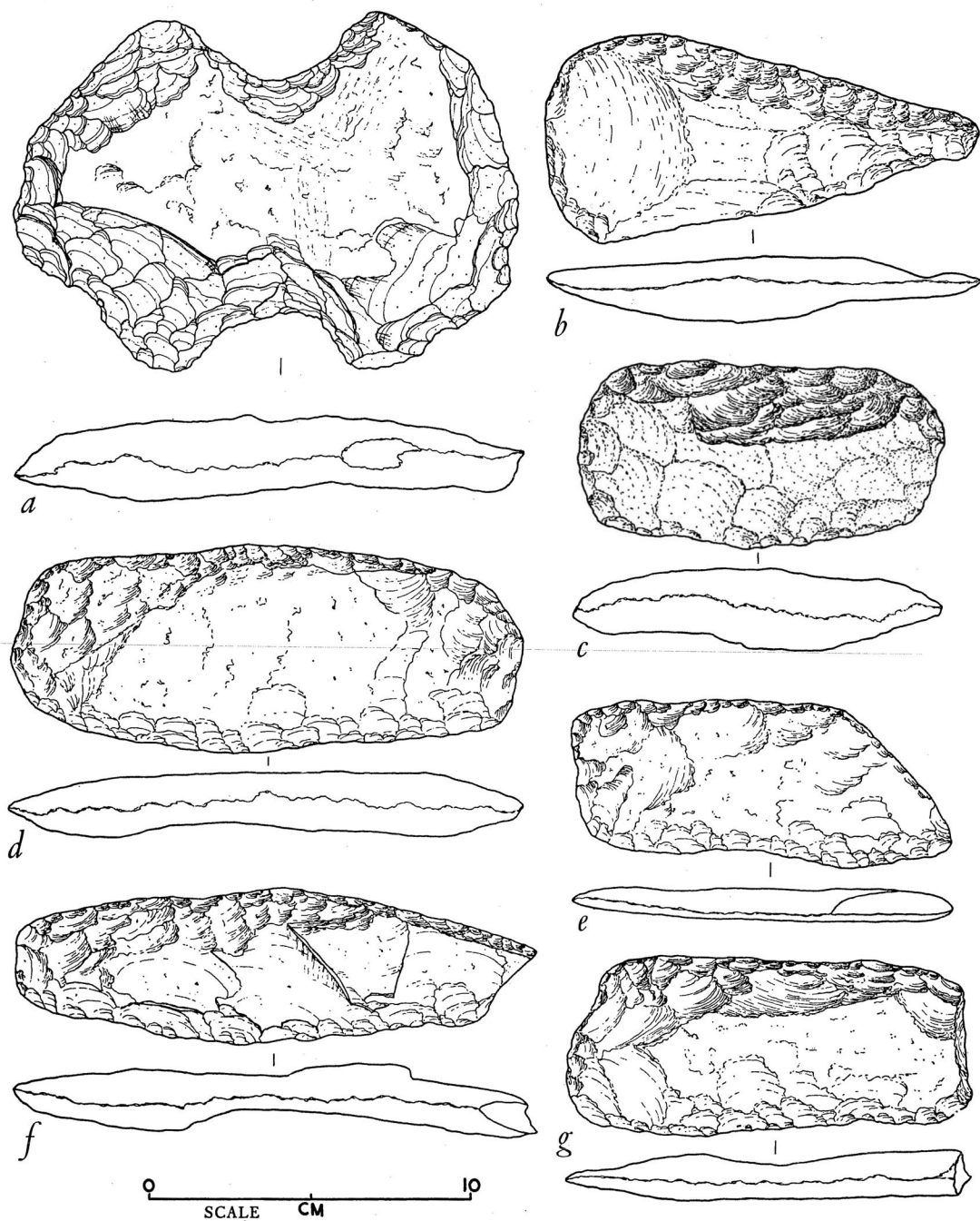


Fig. 8 a, Stone tool from Tonobayashi; b-g, from Kitahara.

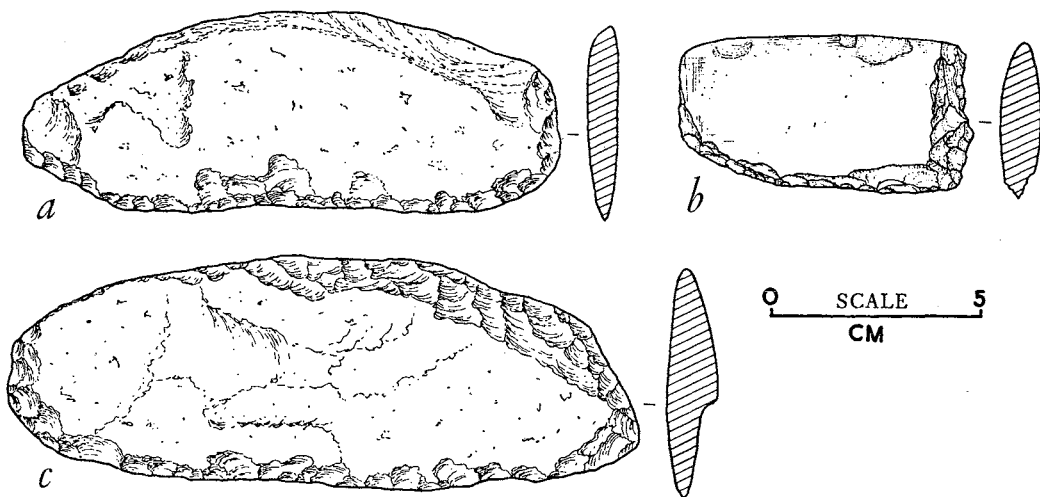


Fig. 9. *a, c*, Stone knives from Kitahara; *b*, from Jūrobara.

jagged edges, the result of use. The Middle Jōmon sites are almost always covered by Haji period (Onitaka stage) sites and are also where modern people keep their kitchen gardens today. When iron came into popular use in the Haji period, the inhabitants began to cultivate higher fields than the rice paddies to increase production. This spatial overlap should have some bearing on the question of Katsusaka agriculture. But, while it is unlikely that agriculture supported the Katsusaka people entirely, it is even more unlikely that hunting, fishing, and food collecting was their exclusive support because of the mountainous terrain and the general scarcity of food in winter. Thus, it is quite natural for us to assume that the people knew how to make starch, which can be preserved well. It is easy to mash potatoes, but to extract starch from them, one needs plenty of water and large water containers. Therefore, Katsusaka men chose dwelling sites where water supplies were ample. The technique of making starch was not easy, but once it was learned, food problems were no longer serious. It must be this phenomenon that made it possible for the Katsusaka culture to develop rapidly and vigorously.

ADDENDUM

A vessel bearing the realistic decoration of a snake was found in the second excavation of the Yanagida site in the summer of 1967. The pot is otherwise only cord-marked. The snake runs vertically the length of the pot and is arched to form part of the handle at the rim; the head of the snake is at the top and faces inward.

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